AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions and listings of claims in the application.

Listing of Claims

1.   (Original) A method in a packet data communication system for allocating user dedicated control channels on an available radio channel resource for transmission of control signals, wherein a first delay sensitive user application and at least a second user application, which is less delay sensitive than the first user application, are assigned for user data transmissions on a packet data traffic channel, the method comprising the steps of:

allocating a first logical control channel associated with the first user application on a first part of the available radio channel resource; and

allocating a second logical control channel associated with the at least second user application on a second part of the available radio channel resource.

2.   (Original) The method of claim 1, wherein the ratio between said first and second parts of said available radio channel resource is selected based on a network configuration.

3.   (Original) The method of claim 1, wherein the ratio between said first and second parts of said available radio channel resource is selected based on said first and at least second user applications.

4.   (Original) The method of claim 1, wherein the ratio between said first and second parts of said available radio channel resource is 50%.

5.   (Original) The method of claim 1, wherein said first logical control channel is a packet slow associated control channel PSACCH and said second logical control channel is a packet timing advance control channel PTCCH.

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6.   (Currently Amended) The method of claim 5, wherein said allocated PSACCH is assigned for transmission in [[the]] an uplink direction of measurement reports.

7.   (Currently Amended) The method of claim 5, wherein said allocated PSACCH is assigned for transmission in [[the]] a downlink direction of system-specific information.

8.   (Original) The method of claim 1, wherein said first logical control channel is allocated on said available radio channel resource according to a first predetermined repetition pattern within a superframe structure.

9.   (Original) The method of claim 8, wherein said second logical control channel is allocated on said available radio channel resource according to a second predetermined repetition pattern within said superframe structure.

10.   (Currently Amended) The method of claim 9, A method in a packet data communication system for allocating user dedicated control channels on an available radio channel resource for transmission of control signals, wherein a first delay sensitive user application and at least a second user application, which is less delay sensitive than the first user application, are assigned for user data transmissions on a packet data traffic channel, the method comprising the steps of:
    allocating a first logical control channel associated with the first user application on a first part of the available radio channel resource according to a first predetermined repetition pattern within a superframe structure; and
    allocating a second logical control channel associated with the at least second user application on a second part of the available radio channel resource according to a second predetermined repetition pattern within said superframe structure;

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wherein said first and second predetermined repetition patterns are selected such that said first and second logical control channels and packet data traffic channel are allocated on [[the]] a same timeslot within said superframe structure.

11.   (Currently Amended) The method of claim 10, wherein each of said first and second logical control channel is allocated on said the same timeslot in one frame at a time.

12.   (Currently Amended) The method of claim 11, wherein each of said first and second logical control channel is allocated on said the same timeslot in every second frame of said one frame at a time.

13.   (Currently Amended) The method of claim 11, wherein each of said first and second logical control channel is allocated on said the same timeslot in four consecutive frames of said one frame at a time.

14.   (Currently Amended) A packet data communication system comprising:

a plurality of base stations for radio communication with mobile stations of user data over packet data traffic channels;

a radio transmission control node for controlling [[the]] operation of said plurality of base stations; and

a scheduler associated with each of the plurality of base stations, wherein the scheduler operates to:

allocate a first logical control channel associated with a first user application on a first part of an available radio channel resource; and

allocate a second logical control channel associated with at least a second user application on a second part of the available radio channel resource,

wherein the at least second user application is less delay sensitive than the first user application.

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15.   (Original) The system of claim 14, wherein said radio transmission control node is a base station control node BSC.

16.   (Currently Amended) The system of claim 14, wherein [[the]] a ratio between said first and second parts of said available radio channel resource is selected based on a network configuration.

17.   (Currently Amended) The system of claim 14, wherein [[the]] a ratio between said first and second parts of said available radio channel resource is selected based on said first and at least second user applications.

18.   (Currently Amended) The system of claim 14, wherein [[the]] a ratio between said first and second parts of said available radio channel resource is 50%.

19.   (Currently Amended) ~~The system of claim 14,~~ A packet data communication system comprising:
    a plurality of base stations for radio communication with mobile stations of user data over packet data traffic channels;
    a radio transmission control node for controlling operation of the plurality of base stations; and
    a scheduler associated with each of the plurality of base stations, wherein the scheduler operates to:
    allocate a first logical control channel associated with a first user application on a first part of an available radio channel resource, wherein said first logical control channel is a packet slow associated control channel, PSACCH; and
    allocate a second logical control channel associated with at least a second user application on a second part of the available radio channel resource, wherein said second logical control channel is a packet timing advance control channel, PTCCH,
    wherein the at least second user application is less delay sensitive than the first user application.

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20.   (Currently Amended) The system of claim 19, wherein said scheduler further operates to[[:]] assign said allocated PSACCH for transmission in [[the]] an uplink direction of measurement reports.

21.   (Currently Amended) The system of claim 19, wherein said scheduler further operates to[[:]] assign said allocated PSACCH for transmission in [[the]] a downlink direction of system-specific information.

22.   (Currently Amended) The system of claim 14, wherein said scheduler further operates to[[:]] allocate said first logical control channel on said available radio channel resource according to a first predetermined repetition pattern within a superframe structure.

23.   (Currently Amended) The system of claim 22, wherein said scheduler further operates to[[:]] allocate said second logical control channel on said available radio channel resource according to a second predetermined repetition pattern within said superframe structure.

24.   (Currently Amended) ~~The system of claim 23,~~ A packet data communication system comprising:
        a plurality of base stations for radio communication with mobile stations of user data over packet data traffic channels;
        a radio transmission control node for controlling operation of the plurality of base stations; and
        a scheduler associated with each of the plurality of base stations, wherein the scheduler operates to:
        allocate a first logical control channel associated with a first user application on a first part of an available radio channel resource according to a first predetermined repetition pattern within a superframe structure; and

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allocate a second logical control channel associated with at least a second user application on a second part of the available radio channel resource according to a second predetermined repetition pattern within the superframe structure,

wherein the at least second user application is less delay sensitive than the first user application, and wherein said scheduler further operates to[[:]] select said first and second predetermined repetition patterns such that said first and second logical control channels and packet data traffic channel are allocated on [[the]] a same timeslot within said superframe structure

25.   (Currently Amended) The system of claim 24, wherein said scheduler further operates to[[:]] allocate each of said said first and second logical control channel on said the same timeslot in one frame at a time.

26.   (Currently Amended) The system of claim 25, wherein said scheduler further operates to[[:]] allocate each of said first and second logical control channel on said the same timeslot in every second frame of said one frame at a time.

27.   (Currently Amended) The system of claim 25, wherein said scheduler further operates to[[:]] allocate each of said first and second logical control channel on said the same timeslot in four consecutive frames of said one frame at a time.

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28.   (Currently Amended) A method in a packet data communication system for allocating logical control channels associated with logical traffic channels, on an available radio channel resource for transmission of control signals, the method comprising the steps of:

allocating a first logical control channel on a first part of the available radio channel resource based on an associated logical traffic channel for carrying user data of a delay sensitive application; and

allocating a second logical control channel on a second part of the available radio channel resource based on an associated logical traffic channel for carrying user data of a non-delay sensitive application,

wherein the first logical control channel is associated with a logical traffic channel for carrying user data of a delay sensitive application and the second logical control channel is associated with at least a logical traffic channel for carrying user data of a non-delay sensitive application.